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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/877,006  
Filing Date: June 11, 2001  
Appellant(s): MIO ET AL.

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Michael K Mutter  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 26 February 2007 appealing from the  
Office action mailed 18 September 2006

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,640,960

Sakazaki et al

7-1997

Watkinson "MPEG-2" 1999, pages 184, 223 and 224

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 3-4, 7-8, and 10-11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakazaki et al (5,648,960).

**Regarding claims 3 and 11,** Sakazaki et al disclose a program recording and reproducing apparatus and method to which a stream of a plurality of time-division-multiplexed signals are inputted, comprising:

- extracting unit and step for extracting program packets of the predetermined coded program signals from the streaming signals (Col 4, lines 36-39 "The data extractor 2 extracts desired data from the different types of data

contained within the input data packet stream and outputs the extracted data to a data combiner 4");

- discarding other program signal packets in the streaming signal (Col 4, lines 44-46 "The deleted packet detector 3 extracts the number of the non-extracted data packets that are in contiguous sequence between extracted data packets");
- recording the respective program packets and a discarded packet count corresponding to the number of packets discarded between two consecutively recorded program packets (Col 4, lines 51-52 "The data combiner 4 combines the extracted data and the information relating to the number of deleted packets" and Col 5, lines 11-12 "The output of the data combiner 4 is supplied to a recording circuit 5");
- reading the coded program signals out of the recording unit (Col 5, lines 23-26 "The reproducing circuit 7...outputs the data to a data separator 8");
- generating null packets corresponding to the discarded packet count (Col 5, lines 26-30 "The data separator 8 separates each of the extracted data packets from the reproduced data and after separating the information relating to the number of deleted packets in contiguous sequence, outputs this information to a dummy packet inserter 9"); and
- converting the coded program signals read out after inserting null packets corresponding to the discarded packet count between the two consecutive program packets (Col 4, lines 37-39 "The data extractor 2 extracts desired

data from the different types of data contained within the input data packet stream and outputs the extracted data to a data combiner 4" and Col 5, lines 54-57 "The dummy packet inserter 9 inserts a number of dummy packets, based on the number of the deleted packets in contiguous sequence, into the sequence of extracted data packets from the data separator 8");

- wherein the recording unit records one control packet structured in the same format as the program packet as substituted for discarded packet, thereby recording a discarded packet count of the packets discarded between two consecutive program packets (The Examiner notes that the MPEG2-TS claimed by the applicant is a packetized digital bit stream, which can be considered a format. The discarded packet count of Sakazaki et al is inherently packetized digital bits as well, satisfying the "same format" limitation. Fig. 2[h] shows the deleted packet count being inserted between stored packets).

**Regarding claim 4,** Sakazaki et al disclose a program recording/reproducing apparatus comprising a unit that detects a speed of the streaming signals based on the number of packets contained per unit time when receiving the streaming signals;

wherein the speed detecting unit outputs the program signals at the speed detected (Col 3, lines 40-46 "The extracted data and the information of the number of deleted packets in contiguous sequence is separated after being reproduced by the reproducing circuit. The output circuit outputs the extracted data while inserting dummy packets therebetween based on the information of the number of data packets in

contiguous sequence. Thus, the resulting output data train contains extracted data at the same time intervals that such data was contained within the input data train”).

**Regarding claims 7 and 13,** Sakazaki et al disclose a program recording/reproducing apparatus wherein the recording unit records a discarded packet count of the packets discarded between two consecutive program packets at every interval therebetween, thereby recording a discarded packet count of the packets discarded between two consecutive program packets (Fig. 2[h] shows the deleted packet count being inserted between stored packets).

**Regarding claim 8,** Sakazaki et al disclose a program recording and reproducing apparatus to which a stream of a plurality of time-division-multiplexed signals are inputted, comprising:

- extracting unit for extracting program packets of the predetermined coded program signals from the streaming signals (Col 4, lines 36-39 “The data extractor 2 extracts desired data from the different types of data contained within the input data packet stream and outputs the extracted data to a data combiner 4”);
- recording unit that records the respective program packets and a discarded packet count corresponding to the number of packets discarded between two consecutively recorded program packets (Col 4, lines 51-52 “The data combiner 4 combines the extracted data and the information relating to the number of deleted packets” and Col 5, lines 11-12 “The output of the data combiner 4 is supplied to a recording circuit 5”);

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- reading unit that reads the coded program signals out of the recording unit (Col 5, lines 23-26 "The reproducing circuit 7...outputs the data to a data separator 8");
- converting the coded program signals read out after inserting null packets corresponding to the discarded packet count between the two consecutive program packets (Col 5, lines 54-57 "The dummy packet inserter 9 inserts a number of dummy packets, based on the number of the deleted packets in contiguous sequence, into the sequence of extracted data packets from the data separator 8");
- wherein the recording unit records one control packet structured in the same format as the program packet as substituted for discarded packet, thereby recording a discarded packet count of the packets discarded between two consecutive program packets (The Examiner notes that the MPEG2-TS claimed by the applicant is a packetized digital bit stream, which can be considered a format. The discarded packet count of Sakazaki et al is inherently packetized digital bits as well, satisfying the "same format" limitation. Fig. 2[h] shows the deleted packet count being inserted between stored packets).

**Regarding claim 10,** Sakazaki et al disclose a program recording/reproducing apparatus wherein the recording unit records each program packet and the discarded packet count of the packets discarded between the two consecutive program packets



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on a magnetic tape, a magnetic disk, or an optical disk (Col 4, lines 27-28 "This embodiment is specifically applied to the 6-mm type digital VTR").

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakazaki et al.

**Regarding claim 5**, Sakazaki et al disclose a program recording/reproducing apparatus wherein the speed converting unit outputs the coded program signals at the speed detected (Col 3, lines 43-46 "it becomes possible to make a transmission rate at prescribed time intervals of the output data train from the output circuit at a rate based on the rate of the input data train").

Sakazaki et al are silent on the method used for determining the speed of the streaming signals.

The Examiner takes official notice that detecting the speed of an input signal for recording and reproduction purposes by means of time management information is notoriously well known, widely used, and commercially available, citing the Presentation Time Stamps defined in the MPEG-2 specification as that time management information.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sakazaki et al in order to specify using time management information from the input data stream to determine an output data rate.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakazaki as applied to claims above, and further in view of Watkinson (MPEG-2, 1999).

**Regarding claim 9**, Sakazaki et al disclose a program recording/reproducing apparatus wherein the incoming stream conforms to MPEG specifications, suggesting conformance with such standards, but does not specifically disclose that the recording unit records a stream management packet as a first recording packet of the predetermined coded program signal or that an I-frame would be the first frame recorded subsequently to the management data

Watkinson teaches MPEG-2 storing a packet stream wherein a stream management packet is the first recorded packet (Page 224, Figure 6.4 shows a set of PES packets, headed by a pack header which "contains a clock reference code" or management data).

As suggested by Sakazaki et al and taught by Watkinson, a recording of an MPEG stream is headed by management data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sakazaki et al in order to specify the first recording packet being a stream management packet.

Watkinson also teaches MPEG-2 groups of pictures as starting with an I frame, allowing P and B frames a reference from which their prediction can function (Page 184,

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Figure 5.22 shows an MPEG signal consisting of several groups of pictures, allowing interceded P frames to predict from the I frame).

As suggested by Sakazaki et al and taught by Watkinson, I frames are known to be the first frames that can be decoded and therefore would be the first frames of any value to be recorded on a medium.

Therefore, it would have been obvious to modify Sakazaki et al to record an I frame first after management data.

#### **(10) Response to Argument**

In re page 7, Appellant's Representative states: "Sakazaki does not explicitly disclose the format of the discarded packet count *control* packet because Sakazaki does not disclose storing the discarded packet count in a *control* packet."

The Examiner respectfully disagrees. Based on the Appellant's specification, the only requirement for an MPEG packet to be a "control packet" is that it contains a discarded packet count. In much of the existing art, the term "control packet" is defined in a variety of ways, and does not appear to have a consistent meaning to those of skill in the art, including data structures that are of formats different from the program packets. The term is therefore considered by the Examiner to conform to the Appellant's specification; that is, a packet containing a discarded packet count. Any MPEG packet containing a count of discarded packets would therefore meet the Applicant's definition of a control packet.

**Further in re page 7**, Appellant's Representative states: "it does not necessarily flow from the disclosure of Sakazaki that the discarded [sic] packet count would be recorded in a control packet, much less a control packet structured in the same format as the program packet."

The Examiner again respectfully disagrees. The Appellant has used the term "format" without explicit definition, so the Examiner believes he has validly interpreted the term to mean a packetized digital bit stream, which is met by the packetized digital bit stream disclosed by Sakazaki et al.

**Further in re page 7**, Appellant's Representative states: "Sakazaki does explicitly disclose the format of the discarded packet count in as much as it is stored a byte information"

While the Examiner does not disagree with the above statement, he respectfully notes that the Appellant has not explicitly disclosed what he means by "the same format," and therefore is broadly met by the packetized digital bit stream disclosed by Sakazaki et al.

**In re page 8**, Appellant's Representative states: "Nowhere in Sakazaki is there any disclosure of a recording unit that records a stream management packet as a first recording packet of the predetermined coded program signal as claimed."

While the Examiner does not disagree with the above statement, he respectfully notes that he did not rely on Sakazaki et al to disclose such a feature in a recording unit, but instead relied upon Wilkinson and provided a valid motivation to combine the references.

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**In re page 9**, Appellant's Representative states: "nowhere in Sakazaki is there any disclosure or suggestion of detecting the speed of the input signal by means of time management information."

The Examiner respectfully notes that the claim does not recite detecting the speed of an input signal, but merely a "streaming signal." The Examiner validly interpreted this recitation as meaning the stream being output from the reproducing apparatus. The Examiner's reference to the "input signal" was to the inherent timing elements of that signal, particularly the Presentation Time Stamps as, that were recorded in part for use in later reproduction into a stream from the recording medium, and not to the speed of the input signal.

Further, the Examiner cites Wilkinson, page 223 as a teaching of the use of Presentation Time Stamps, a copy of which is made available with this Examiner's Answer.

**In re page 10**, Appellant's Representative states: "the Examiner provides no motivation for such a modification other than to assert that Watkinson discloses that MPEP-2 [sic] transport streams include a management packet."

The Examiner respectfully notes that the teachings of Watkinson note that MPEG requires management packets as claimed by the Appellant, and that the Appellant has disclosed their stream as being MPEG, the motivation to combine is simple compliance with the MPEG specification, and is therefore covered by the Examiner's original motivation statement.

**In re page 11**, Appellant's Representative states: "nowhere does Sakazaki disclose or suggest that the recorded data stream comply with the MPEG2 Standard."

The Examiner respectfully notes that Sakazaki et al explicitly disclose the recording of MPEG2 data streams in Col. 1, lines 59-61: "It is desirable to extract only desired packet from a transport data stream transmitted according to the MPEG2 standard and to record the extracted packets on a VTR".

**Further in re page 11**, Appellant's Representative states: "Nor does Sakazaki disclose or suggest that a program packet containing time management information be recorded after the stream management packet."

The Examiner respectfully notes that he did not rely on Sakazaki et al for such a teaching. However, since Sakazaki does disclose the recording of MPEG-2 data stream, the teaching of Wilkinson that MPEG-2 requires management packets placed before the program packets containing time management information is combinable because Wilkinson teaches that such an ordering of packets is in accordance with MPEG-2 specifications.

**Further in re page 11**, Applicant's Representative states: "Watkinson discloses, *arguendo*, an MPEG-2 [sic] transport stream includes a stream management packet as a first packet, not a recorded data stream as claimed. Accordingly, absent some objective reason to modify the teachings of Sakazaki to include the use of stream management packet as claimed, the rejection of claim 9 is improper."

While the Examiner believes that one of ordinary skill in the art would realize that an MPEG program stream is often recorded, as taught by both the instant application

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and the primary reference cited, he also respectfully notes that he did not rely on Wilkinson to teach recording, but only for the details of MPEG-2 as recited in the claims. As both the Sakazaki et al and Wilkinson are particularly involved in disclosing MPEG-2 features and requirements, the motivation to combine them is provided by their common subject matter of MPEG-2.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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